

# Successful Methods

## *A Magazine of Construction Service*

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### Less Shanty Rent

WHILE ago it was more or less of a joke to call attention to the fact that even the common laborers were riding to work in automobiles. Usually the idea was linked with their use of patent leather shoes and silk shirts. Lately, it has begun to sink in that many a job is being handled better and cheaper because the labor does come to it in automobiles.

The president of a contracting company which does an enormous amount of work in isolated districts told us the other day that he has noticed many valuable results from the widespread use of automobiles by workmen. One of these that he considers most important is that such transportation enables local men to live at home and travel considerable distances to a job. One man will usually own a car and several of his neighbors pay him to take them back and forth daily.

This means less floating labor and less labor turnover. It also means that more men live at home with food and surroundings that are congenial. With this change comes the reduction in the amount of shanty life that is necessary. Those of us who have spent time in temporary construction camps know that even the best cannot insure the contentment of home life.

Thus we come to find that what was considered a while ago a luxury for workmen is proving a most valuable feature of modern construction operations. It is therefore well for us to adjust ourselves to the changes that are occurring so rapidly these days. The use of automobiles by workmen should in most cases be encouraged rather than ridiculed.

### Chuting Dry Concrete

MANY construction men believe that it is impracticable to chute dry concrete. This idea has been more widely prevalent among engineers whose field contact with concrete work is from the technical, or the owner viewpoint. Fewer experienced contractors and superintendents of construction operations have thus been misled. At the same time, most of them think that a wet mix flows best in chutes.

It is well known that wet concrete will separate, if it is transported any considerable distance in carts or cars. The soup will come to the top and in the bottom of the container will be largely dry aggregate. The upper part of the load usually discharges easily, while the lower part sticks. Expert concrete workers

know that the remedy for such a situation is less water and more thorough mixing. This also is the answer to the problem of chuting concrete.

Well-mixed, plastic concrete that will slump 1 to 3 in. does not separate as does wetter concrete. As a matter of fact, manufacturers of chuting equipment guarantee their product to function best if a concrete having 4 to 6-in. slump is used, provided the concrete is thoroughly mixed. The range of slump is now generally accepted as standard for reinforced concrete work. On thin slab and column work, it is impracticable to get the concrete around the reinforcing steel if a much drier consistency is used.

So-called dry concrete will doubtless be more and more widely required. This does not mean the elimination of chuting equipment. Indeed, some of the strictest engineering organizations in the country advise the use of chutes for handling what would have been considered very dry concrete a few years ago. The answer is that they require more thorough mixing than has been generally customary. Some also have resorted to the addition of slight quantities of materials which increase the plasticity of the mixture, and which also increase the impermeability and strength of the concrete.

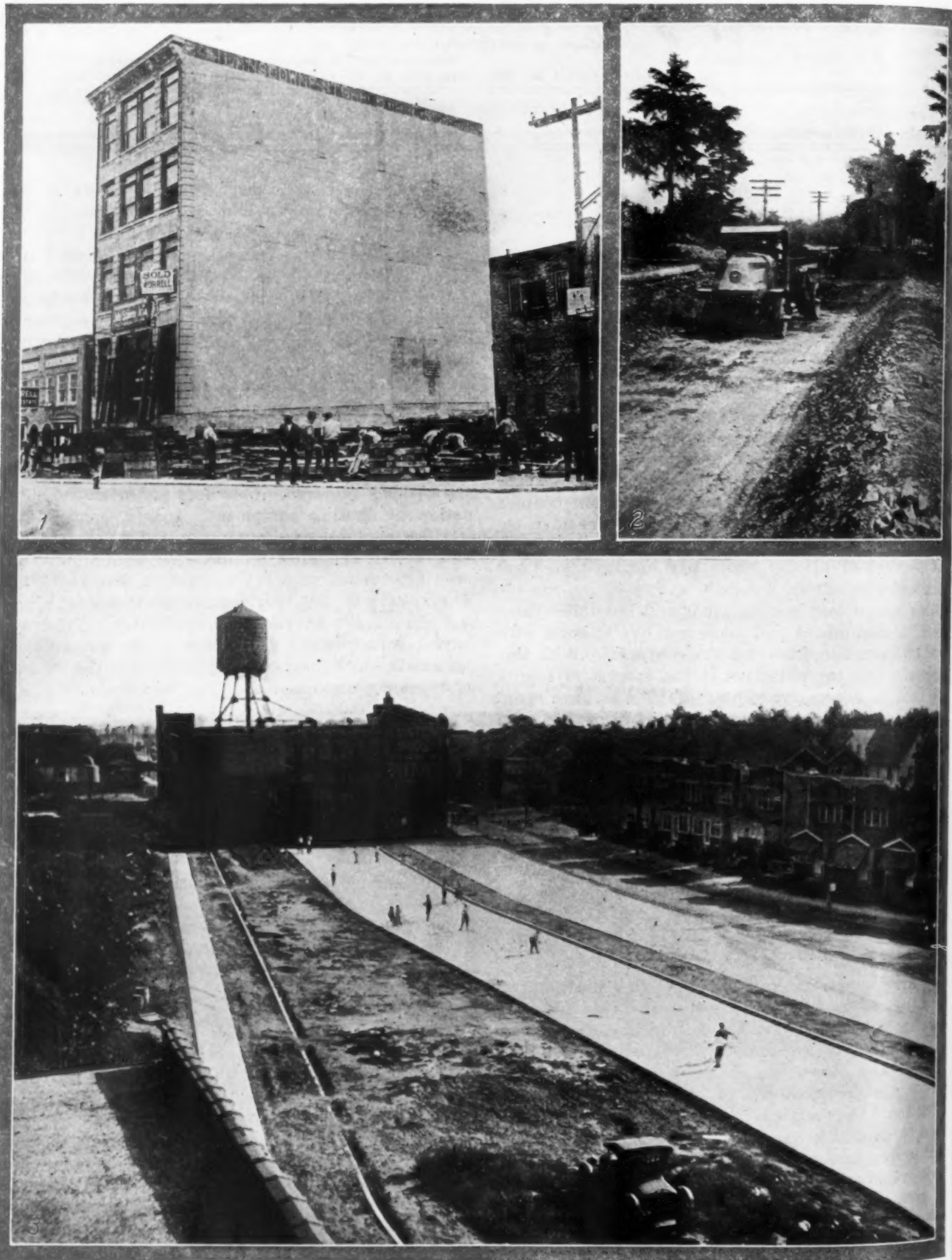
There have been extreme cases where the engineer has refused to permit the use of chutes. Most of these are traceable to a misunderstanding on the part of the engineer. This is usually a case of not realizing that concrete can be mixed so it will meet present day requirements as to water content, and still flow readily.

On many classes of work chuting equipment shows big economies. It is wrong for the engineer to deprive the contractor and eventually the owner, of these economies when good structural results are assured while obtaining them.

### Keep Your Money

ABOUT this time of year some of the readers of SUCCESSFUL METHODS begin sending in checks with requests for renewals of their "subscriptions" to this magazine. These checks are duly returned because of the fact that SUCCESSFUL METHODS is sent free to a carefully selected list of men engaged in the great construction and material handling industries. No money is accepted from our readers and if anyone who reads this paragraph is planning to send us a check, he is respectfully requested to put the money in his own Christmas fund.

## Factory Halts Highway



1. Moving a 4-story reinforced concrete office building in Philadelphia. © P & A.
2. Straightening out one of the kinks in the Lincoln Highway.
3. The slow processes of the law left a factory building in the path of the new Rockaway Boulevard in New York so the contractor constructed the new pavement right up to the walls of the building and then began again on the other side. © Keystone.



## Repaving Pall Mall



4. How the British workman handles himself in the air. © P & A.  
5. Putting up stands for the baseball field at Waseda, Japan, where the great American game has taken a strong hold in public favor. © P & A.  
6. Repaving Pall Mall in London and keeping half the street open while the work goes on. The buses seem to have the right of way. © Keystone.

## GREAT MEDICAL CENTER WELL UNDER WAY

Construction of Magnificent Group of Buildings in New York Is one of Nation's Biggest Jobs

ONE of the most elaborate groups of buildings ever conceived by an American architect is now under construction in New York City where Columbia University and the Presbyterian Hospital have combined to build a great Medical Center on upper Manhattan Island.

A glance at the picture at the bottom of this page is all that is necessary to prove the magnitude of this job. More than a dozen separate buildings are provided for in the plans, and when finished the group will include the College of Physicians and Surgeons, the Presbyterian Hospital, a Babies' Hospital, a separate building for private patients, a Nurses' Home, a State Psychiatric Hospital, the Vanderbilt Clinic and other buildings devoted entirely to the care and healing of the sick.

The Presbyterian Hospital is the highest building shown in the group. It is 18 stories in height and at its left is the College of Physicians and Surgeons surmounted by a tower similar to that on the hospital. The Babies' Hospital and the building for private patients are at the east and west ends of the main hospital.

The Medical Center will occupy the land between 165th and 168th Streets and will extend from Broadway to Riverside Drive. Fort Washington Avenue

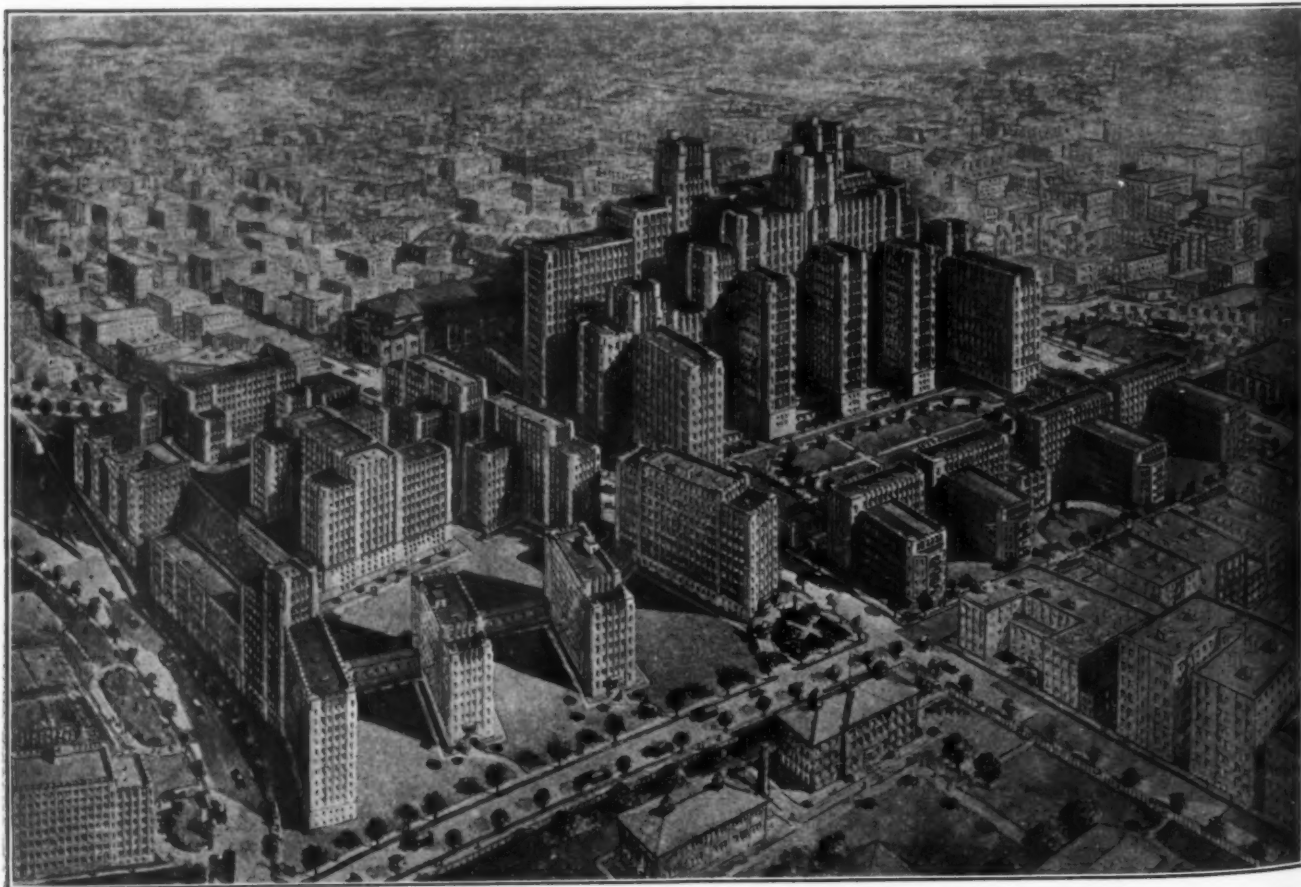
runs through the center of the property dividing the buildings into two main groups.

Ground was broken for the Medical Center in February of this year and actual construction began in March. At present, the Presbyterian Hospital, the College of Physicians and Surgeons and the building for private patients are well under way and the construction of the Babies' Hospital will begin next spring. The private patients' building is the most advanced of the group. Most of the steel work is already up and the bricklayers have begun work on the walls. All of the buildings will be faced with gray brick. The photograph on the cover of this issue of *SUCCESSFUL METHODS* shows a corner of this building.

The work of excavation for the Nurses' Home on the west side of Fort Washington Avenue also has been begun.

The group now under way will probably be completed in about two years and will cost about \$10,000,000. By the time these buildings are finished, it is probable that many of the other buildings of the group will be begun.

The architect for the Medical Center is James Gamble Rogers of New York City. The general contractors are Marc Eidlitz & Sons, Inc., also of New York City. The excavation is being handled by the



AS THE GREAT MEDICAL CENTER WILL LOOK WHEN COMPLETED





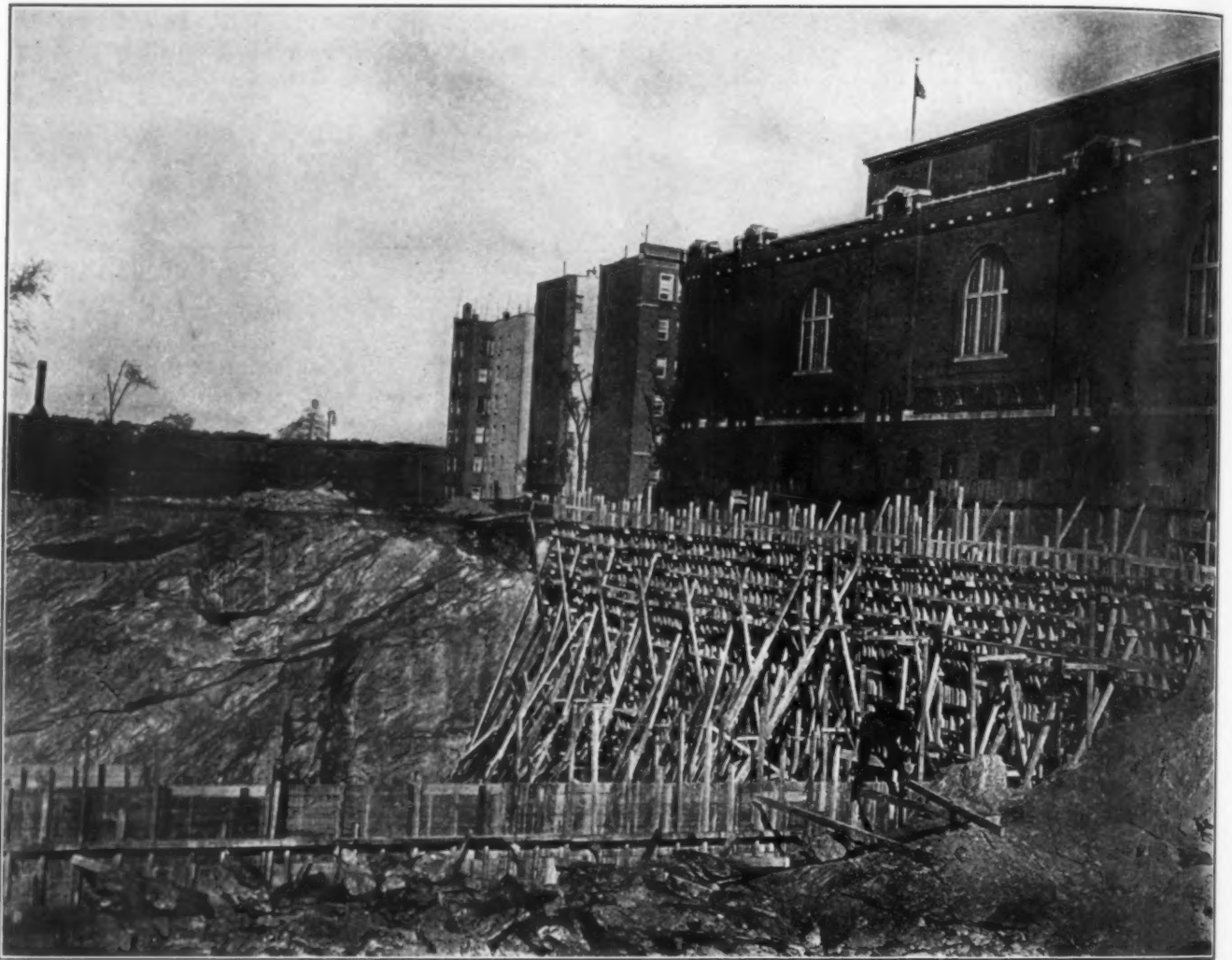
PAVER PERCHED ON PLATFORM TO POUR TUNNEL WALLS

Clemente Construction Company and thus far about 73,000 cu. yd. of material have been removed. The steel is being erected by Post & McCord.

An interesting feature of the job has been the use of a Koehring paving mixer for pouring the concrete foundations. Andrew Anderson, the superintendent



WORKING THE PAVER TO CAPACITY WITH THREE LINES OF CHUTES



THE BIG HOLE CUT OUT OF SOLID ROCK FOR THE CENTRAL POWER HOUSE

in charge for the Eidlitz organization, found that for various reasons it would be impracticable to use a tower and chute for placing the concrete and decided to try out a 13 E paving mixer. Inasmuch as the perimeter of the buildings now under construction is about one-half mile, the paver has done as much traveling since it started work as it would do on an ordinary road job. Up to the present time, it has poured 4000 cu. yd. of concrete and still has 1500 cu. yd. additional on its program. This includes the construction of a tunnel which will connect all of the buildings and which will carry the heat and power lines as well as provide underground passage for pedestrians in bad weather.

The two photographs on page 5 show the paving mixer pouring concrete for the tunnel and the foundations of the hospital building. In the lower photograph the mixer was

distributing concrete through short sections of chute extending in three different directions. In the upper photograph it is perched on a special platform which was constructed so it could get as close as possible to the forms.

At present the paver is pouring concrete for the side walls of the power house. This power house will be below the ground level in an excavation 44 ft. below the street and will furnish power for all of the buildings in the Medical Center. This big hole has been cut out of solid rock and is 128 ft. long by 112 ft. in width. The photograph at the top of page 6 shows the form work for the north wall of the power house and also gives a good idea of the kind of rock which had to be cut through.

Including the private patients' building, about 1800 tons of steel have been set thus far by Post & McCord, and before the



THEW SHOVEL EXCAVATING ON SITE OF NURSES' HOME



present group of buildings is completed about 19,000 tons will be in place. The riveting is being done with Ingersoll-Rand pneumatic tools.

An interesting feature of the job has been the fact that the form work has been handled by the Irving Fireproof Company, which is a negro organization.

The buildings of the Medical Center all overlook the Hudson River as they are built on the western slope of the rocky ridge that forms the upper part of Manhattan Island. As may be seen in the architect's sketch on page 4, the buildings on Riverside Drive are at a much lower level than the main structures.

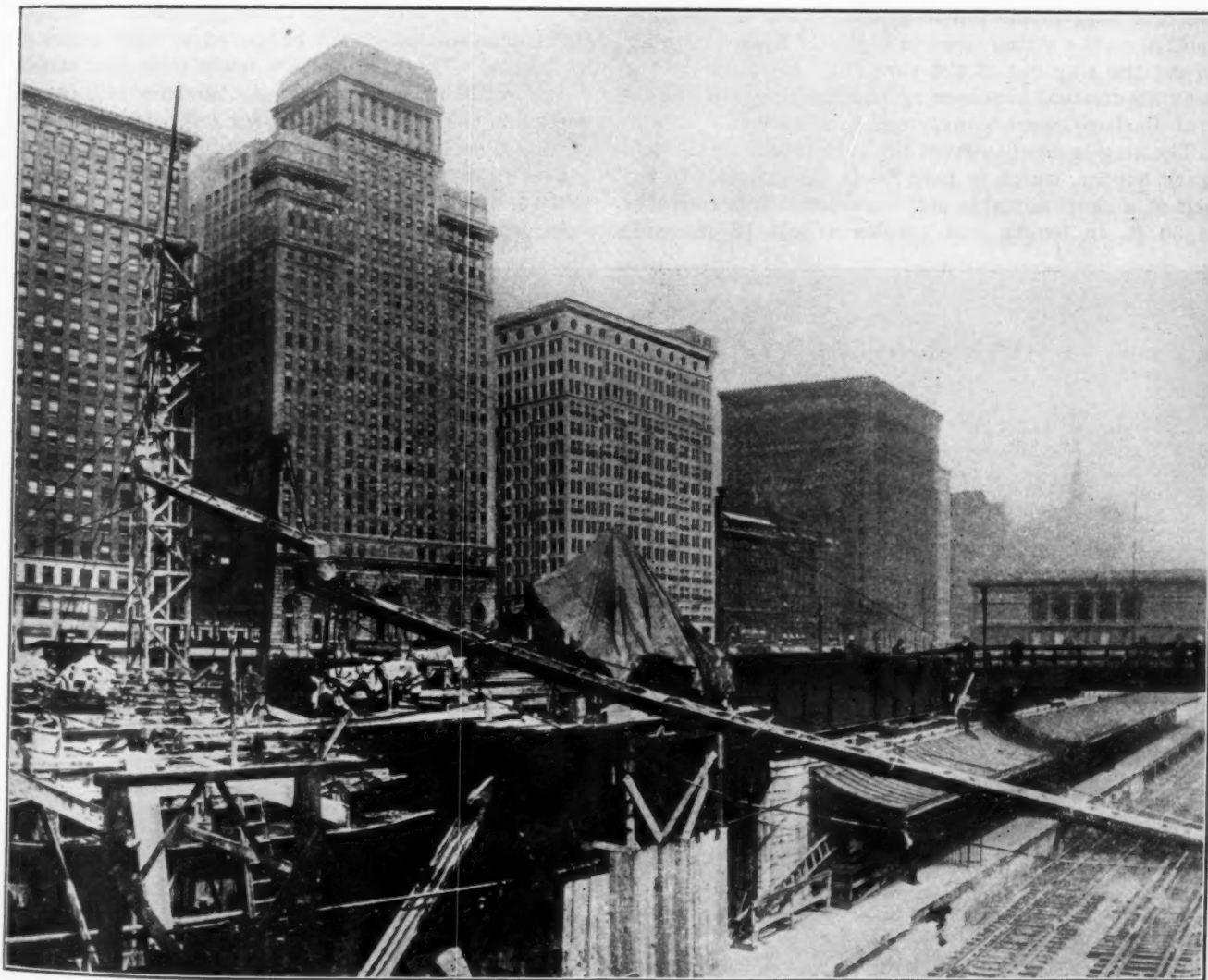
## CHUTING PLANT HANDLES DRY CONCRETE

**T**HE Illinois Central Railroad is doing considerable reconstruction work along the Chicago water front in preparation for the building of its new station. The photograph at the bottom of this page shows the chuting plant used by the B. & W. Construction Company in the construction of a small tunnel at the Van Buren Street Station, which is in Grant Park.

On this particular job the concrete is handled through 154 ft. of chute with a maximum drop of 50 ft. Probably about 6 ft. of this maximum drop was lost because of the drop through the elbows so that it was not as great a pitch as would be obtained with continuous line chute.

In mixing the concrete for this work, the water content was reduced by the use of Celite which was added in the hopper of the mixer to the extent of 4 per cent of the weight of the cement. The use of this material immediately decreased the water content of the concrete by 20 per cent and in no way interfered with the chuting of the mixture. The concrete came down through the chutes in perfect condition and was dry enough to stand up by the riser forms. The surface finish showed the quality of the concrete as it was entirely free from any indications of honeycomb.

The photograph shows the plant in action and it may be seen that the end of the chute is flattened out in order to clear the railroad tracks properly.



CONCRETE WORK ON THE ILLINOIS CENTRAL'S TERMINAL IMPROVEMENT IN CHICAGO

## CONVEYOR SYSTEM DISTRIBUTES NEW SLAG IN FILTER BEDS

Well-Designed Layout Makes It Possible to Handle a Dozen Carloads a Day

**T**HE city of Canton, Ohio, is engaged in reconstructing its sewage disposal plant at East Sparta. The Holmes Construction Company of Canton has the contract.

In connection with the work the filter beds had to be rebuilt and this necessitated the removal of about 80,000 cu. yd. of slag from the bottom of the old beds and the refilling of the reconstructed beds with new slag. The removal of the old slag was effected by loading it into trucks, two clamshell buckets operated by cranes and one Barber-Greene bucket loader being assigned to this work. A daily output of about 1000 cu. yd. of slag was maintained, and of this about 600 cu. yd. were removed by the two cranes while the bucket loader handled the remaining 400 cu. yd. The job furnished an excellent example of the comparative values of the two methods.

The most interesting feature of the work was the handling of the new slag. This material was furnished by the Standard Slag Company of Cleveland and was sent to the job in railroad cars, which were spotted on the siding close to the filter beds. In order to get the slag out of the cars and into place in the beds an unusual conveyor system, making use of several Barber-Greene conveyors, was devised.

The slag is dumped from the cars into a small steel track hopper, which in turn feeds the material to the belt of a short portable belt conveyor. This conveyor is 30 ft. in length and carries a belt 18 in. wide

equipped with steel cross cleats which enable it to carry the slag up the sharp angle from the pit to the point to which it was discharged to the belt of the next conveyor. This conveyor is mounted on wheels so that it can be moved from one track pit to another without difficulty.

The second conveyor acts as a shuttle. It is 60 ft. in length and has an 18-in. belt. The conveyor is mounted on four extended legs which carry axles and single flanged wheels which run on standard 30-in. gage industrial track. This shuttle mounting makes it possible to deliver the slag 60 ft. or more in either direction from a track pit, and also reduces the number of track pits necessary, which is an important matter, as the filter pits are 880 ft. in length. By using the shuttle it was possible to place the track pits 150 ft. apart and to construct only six of them. The belt on the shuttle conveyor can be run in either direction.

From the shuttle conveyor the slag is delivered to another 18-in. belt 111 ft. in length mounted on special trucks so that it can be moved at right angles to its length. These trucks are made with four wheels to run on 30-in. gage track. As this conveyor is supported on the newly laid slag for a considerable share of the time, the trucks are flexibly attached to the conveyor support, thus allowing the necessary variation for irregularities in the track.

In order to reach the filter beds farthest from the

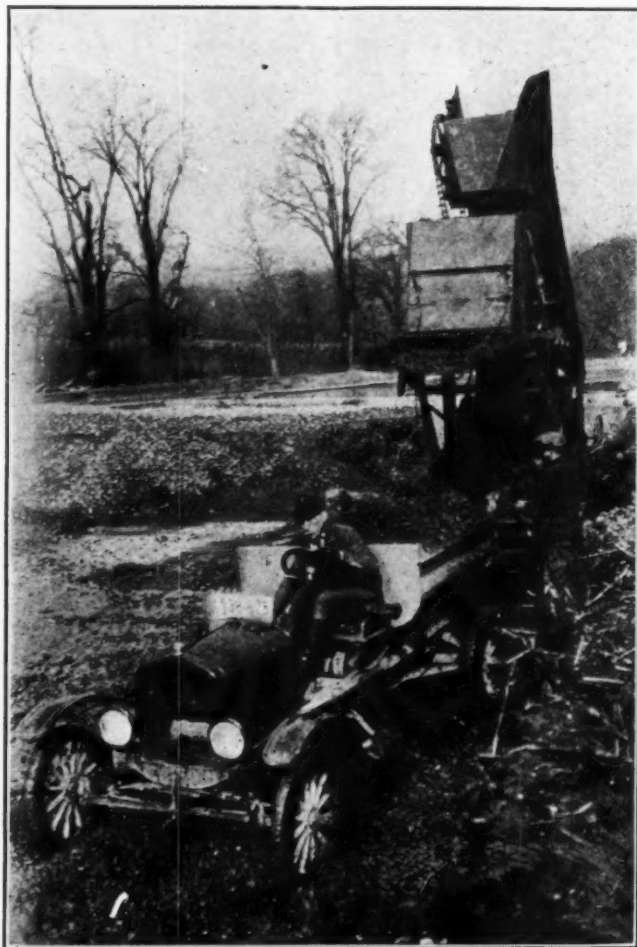


SHORT CONVEYOR WHICH HANDLES MATERIAL BETWEEN TRACK HOPPER AND SHUTTLE BELT



railroad track—the whole basin being 440 ft. wide—it will be necessary to extend the reach to the conveyor system by means of another belt similar to the 111-ft. machine. The new machine will be 220 ft. in length.

The last conveyor, which actually distributes the slag, is mounted on a chassis with crawler traction taken from a Barber-Greene bucket loader. This machine has an 18-in. belt and is 81 ft. in length. The connection between the chassis and the conveyor is so arranged that the crawler unit can turn about freely under the conveyor. While the stone is being distributed into the filter bed from the belt of this machine the chassis is moved back and forth, so that the end of the conveyor moves in an arc with the hopper end as the pivot. Further flexibility of discharge is obtained by the



BUCKET LOADER REMOVING OLD SLAG

use of a swivel discharge chute 15 ft. in length.

When moving from one setup to another, the crawler chassis is turned at right angles to its usual position and either pushes or pulls the hopper end along the slag fill to its new position. All of the conveyors are operated by electric motors and the crawler chassis was driven by a gasoline engine. When this job is complete the Holmes Construction Company intends to use the chassis as part of a bucket loader.

With this unusual conveyor layout it is possible to handle from 10 to 12 carloads of slag a day. From three to five men run the conveyors and they can unload a car and deposit the slag in its place in the filter beds in 40 min.

The portable conveyor is steadily gaining favor in the construction field. A layout such as that which has just been de-



THE CONVEYOR SYSTEM IN OPERATION SHOWING TWO TYPES OF MOUNTING



DISCHARGING SLAG INTO FILTER BEDS. THE CRAWLER MOUNTING AND SWIVEL CHUTE DISTRIBUTE MATERIAL EVENLY.

scribed requires careful planning, but the results prove its efficiency. There are jobs like this going on all over the country on which conveyors could be

used profitably. A study of the possibilities of using conveyors should be a preliminary whenever this sort of work is under consideration.

## WITH THE STATE HIGHWAY DEPARTMENTS

**T**HE contractors engaged in road construction in Minnesota have made remarkably good progress in spite of unfavorable weather conditions, according to a statement issued by J. T. Ellison, First Assistant Commissioner and Chief Highway Engineer, who is in charge of the State Highway Department in the absence of C. M. Babcock who is one of the American delegates to the Pan-American Road Congress at Buenos Aires.

A survey of 55 grading and graveling jobs undertaken during the season just ended showed that 29 were finished on time, or ahead of the completion date, 4 were a week late, 5 were two weeks late and 17 a month or more behind scheduled time. Practically all of these late jobs had been delayed by rainy weather or by causes beyond the control of the contractor. The bad weather has seriously interfered with paving construction during October. Nevertheless, of about 85 miles of paving on the 1925 program less than 5 miles remain uncompleted.

**A** SPLENDID example of cooperation between the Indiana Highway Department and a railroad to provide a suitable and safe bridge crossing for the public, is announced by state road officials in the completion of what is known as the Lake Drain

bridge on State Road 18 at a point just north of Rockport.

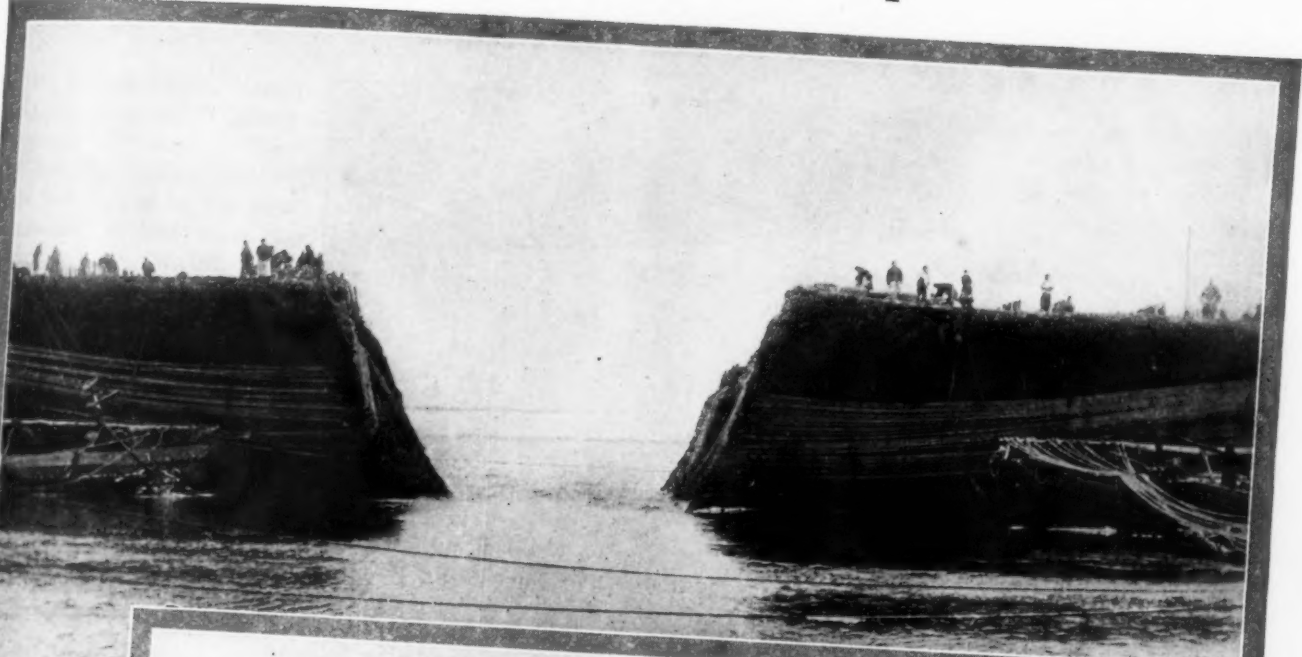
Here the Evansville and Ohio Valley Railway Company cooperated with the State Highway Department to build a new bridge costing approximately \$32,000, of which amount the traction company paid \$7,060. The sum the traction company paid was determined on the basis of the ratio of width of roadway used by it to the width of roadway used for the state road.

The new bridge is a reinforced concrete arch structure, that owing to the soft ground on which it rests, required unusually long foundation piling. It replaces an old concrete structure that had broken up and become hazardous due to the soft subsoil and insufficient piling in the foundation, having been constructed during a period when traffic was not near so heavy as that of today.

**T**HE Division of Highways of Illinois is issuing each month a Route Bulletin which is distributed free of charge and which gives a complete description of the main state routes in Illinois. The exact condition of each mile of the route is given and the type of pavement which the motorist will encounter is stated. This bulletin is proving extremely popular among those who use the Illinois highways.



## Where Labor Is Cheap



Hand labor is cheap in China so the whole countryside turned out to repair a break in one of the big dams. This work has to be done frequently and the Chinese accomplish the job by filling a great hemp net with earth and pulling it with ropes into the break in the dam. © International.

## SEAWALL PROTECTS CALIFORNIA ROAD

Concrete Structure Built for State Highway Commission Combines Good Points of Previous Designs

**A** CONCRETE seawall a mile in length is being built by the California Highway Commission along the ocean front at the foot of the famous Rincon Cliffs in Ventura County, 25 miles south of Santa Barbara.

This seawall will retain a sand fill upon which the highway will be built and replaces two narrow timber pile trestles which now carry the highway over the ocean beach near the foot of the cliffs. The wall will be about a mile and a quarter in length and averages about 20 ft. in height. It is founded upon shale rock into which it is set about a foot. It is so located with relation to the cliffs and the paralleling tracks of the Southern Pacific Railroad that it will retain a 40 ft. wide sand fill. A 26 ft. paved highway and a 6 ft. sidewalk will be built upon the sand fill, just back of the wall.

When this wall was planned a large number of designs of other similar seawalls were reviewed and a sort of composite of a number of other similar walls was adopted.

The seaward face of the wall has been curved to



FACE OF WALL JUST AFTER REMOVAL OF FORMS

resist and return the waves. On top of the wall proper a parapet wall is being built which will act as a rail for the sidewalk and at the same time furnish added protection to the highway from the wave action.

Particular care has been taken in the construction of the wall to obtain an impervious concrete so that the action of salt water upon the wall will

be reduced to a minimum. The rock crushing plant and the mixing plant have been designed to produce a dense strong concrete. Tests made of the field concrete used in the wall have shown an average strength for the concrete as follows:

Concrete ten days old, average strength 2452 lb. per sq. in.

Concrete twenty days old, average 3914 lb. per sq. in.

Concrete ninety days old, average 5053 lb. per sq. in.

The old timber pile trestles which will be replaced by this new wall were built a number of years ago by the citizens of Ventura County, partly financed by private subscription and partly constructed by



GENERAL VIEW OF CONSTRUCTION OF NEW SEAWALL





A TYPICAL SECTION OF THE NEW CONCRETE WALL

citizens who volunteered to help in their construction. Under the circumstances the trestles were built as cheaply as possible and because of this fact and also because of their age these trestles have been in

a dangerous and unsafe condition for a long time.

The seawall is being built by the J. H. Tillman Company of Portland, Ore., and will cost when completed about \$500,000.

## AMERICAN ROAD BUILDERS INVITE SOUTH AMERICAN COUNTRIES TO SEND DELEGATES TO CONVENTION

THAT the next annual Convention and Road Show of the American Road Builders' Association to be held in Chicago, Jan. 11-15, 1926, inclusive, will be an international and especially a Pan-American affair, is indicated by the fact that all the Central and South American countries are being asked to send delegates. Last year 16,000 registered delegates, many of them unofficial ones from South America, attended the convention.

A request is being made of the Central and South American countries this year, however, to take official cognizance of the meeting and send official representatives, the invitation being presented personally by Frank Page, chairman of the North Carolina State Highway Commission, who is a past president of the American Road Builders' Association and who is now at Buenos Aires, attending the Pan-American Road Congress, as one of the American delegates appointed by President Coolidge.

Mr. Page is also vice-president of the American Association of State Highway Officials and is a brother of the late Walter Hines Page, American Ambassador to Great Britain during the World War. He will visit practically every country in Central and South America and personally present to its government the American invitation to have one or

more delegates present at the Chicago convention when it starts its sessions next January.

National highway activities have created interest in road construction and maintenance to such an extent that all highway engineers and officials are now eager to learn the latest developments in road building. That this is realized by producers of machinery and materials is evidenced by the fact that more than 200 exhibitors have already applied for space at the Road Show to be held at the Chicago Coliseum by the American Road Builders' Association in conjunction with its Convention. More than 400 exhibitors will display their most up-to-date products in road machinery, equipment and materials.

The recent designation of United States Highways that will link all the States and the principal cities in a great national system has created a wide national interest. That the United States highways especially may be constructed, maintained and operated by the most efficient methods, national and State highway engineers and officials in large numbers will visit the road show to become acquainted with the latest in road building, equipment and machinery. The space drawing by exhibitors for this exposition will be held Nov. 2. Convention offices will be opened in Chicago about Dec. 1.

## BUFFALO'S NEWEST AND BIGGEST BANK

### Modern Structure Put Up by Local Contractor

**T**HE new Liberty Bank Building, twenty-three stories in height, the largest building ever constructed in Buffalo, is now completed, and an estimate of the work done shows several features of more than ordinary interest.

The footings for the building, consisting of pre-cast concrete caissons, were sunk 72 ft. to rock. The supporting beams for the building rest on these caissons, and are of long span arch construction, 14 ft. square on the spans, the beams being 15 by 18 in. on typical floors. At the base of the building the column members are 24 in. in thickness, reduced to 10 in. at the top, both beams and columns being built up of angles and plates.

The flooring throughout consists of a two-way system type of arch, with a  $4\frac{1}{2}$  in. slag fill and 1 in. top finish. Slag fill was used in preference to the usual cinder fill to avoid swelling cracks and because the contractors were not required to cover the conduits as in the case of cinders, there being no acid action from the slag to damage the conduits.

The building is 61 ft. by 232 ft. A granite base course starts the outside masonry, the next four stories being of cut limestone, and the rest of the construction of brick and terra-cotta. In placing the masonry, work was started simultaneously from the ground and from the eleventh floor. This was made

possible by the placing of hoisting derricks at the tenth floor, and as a result of starting the work in both places, the brick work was completed with remarkable speed. The contractors, John Gill & Sons, are proud of their record in laying brick daily on the job, no matter what the weather conditions.



NEW LIBERTY BANK BUILDING NEARING COMPLETION

All power for the job is electric, being furnished direct from the 2200 volt current of the Buffalo General Electric Company, and handled through three 200 K.V.A. transformers. Temporary hoists were rigged in five of the 13 permanent elevator shafts to handle the concrete on the upper floors, which was placed through a buggy system, two half-yard mixers being kept in constant operation. The contractors also report that they used concrete mixers throughout on mortar mixing and found them thoroughly satisfactory for the purpose.

One of the most difficult and delicate jobs on the whole building was the placing of the twelve heavy stone columns, seven tons each in weight, at the top of

the building. These were made in three sections, the sections being hoisted to the top of the building by a winch and gin-pole arrangement, a truck on the street level furnishing the power for the job, and a  $\frac{5}{8}$ -in. cable connecting with the hoisting gear. So cleverly was the job geared that the strain on the lead-line was only 800 lb.

## HIGHWAY RESEARCH BOARD ISSUES NEW PUBLICATION

**I**N order to help in the coordination of highway research throughout the country, the Highway Research Board of the National Research Council has decided to issue a publication called the "Highway Research News." The first issue is dated Oct.

15, 1925, and gives on its first page the program for the Fifth Annual Meeting of the Highway Research Board in Washington, Dec. 3 and 4. C. M. Upham is Director of the Highway Research Board and S. S. Steinberg is editor of the Highway Research News.



## LOUISIANA HIGHWAY COMMISSION IS ELIMINATING BOTTLENECKS

### New Bridges Replace Old Structures and Inadequate Ferries

**B**ECAUSE of the fact that much of the land in the state is so low, the Louisiana Highway Commission has had to do more than its share of bridge building in the last few years.

The photographs on this page show a bridge which has been constructed to replace an old hand-operated ferry at Delhi where the Dixie Overland Highway crosses the Bayou Macon. The new bridge consists of three reinforced concrete deck girder spans 40 ft. in length constituting the west approach, three steel truss spans 80 ft. long and a 30 ft. concrete span to form the east approach. The channel span is 12 ft. above extreme high water.



upper photograph, the old ferry had a capacity of only two cars which meant that it required only a moderate stream of traffic to pile up on both sides of the Bayou. Since the bridge was opened the traffic has been able to use the road without the slightest congestion.

This bridge is only one of a number of similar structures that the Louisiana State Highway Commission is building at the present time. The bottlenecks on the state highway system are being eliminated as rapidly as possible and this work is proving of benefit not only to tourist travel, but also to the truck traffic upon which prosperous business conditions in Louisiana partly depend.

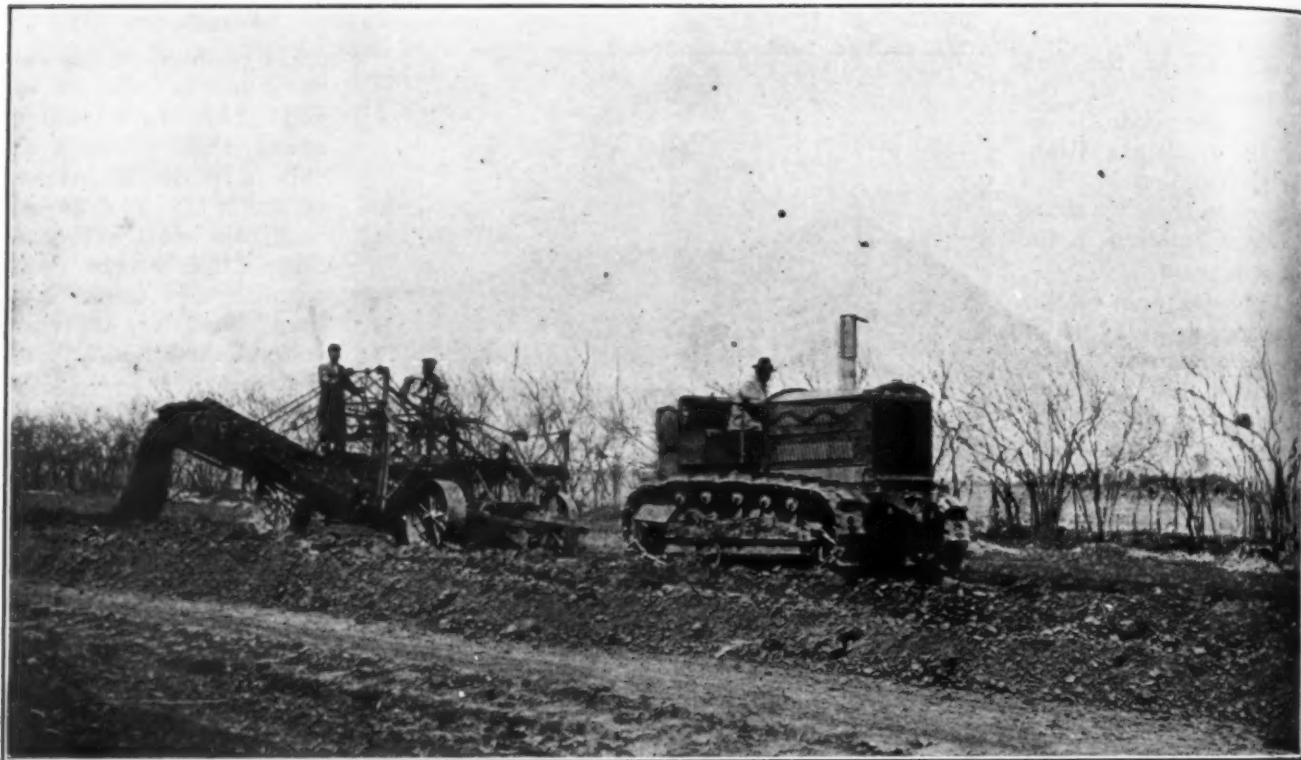
As may be seen in the THE OLD FERRY THAT FREQUENTLY TIED UP TRAFFIC



THE NEW BRIDGE THAT KEEPS THE WHEELS TURNING

## ROAD WORK IN SOUTH AMERICA

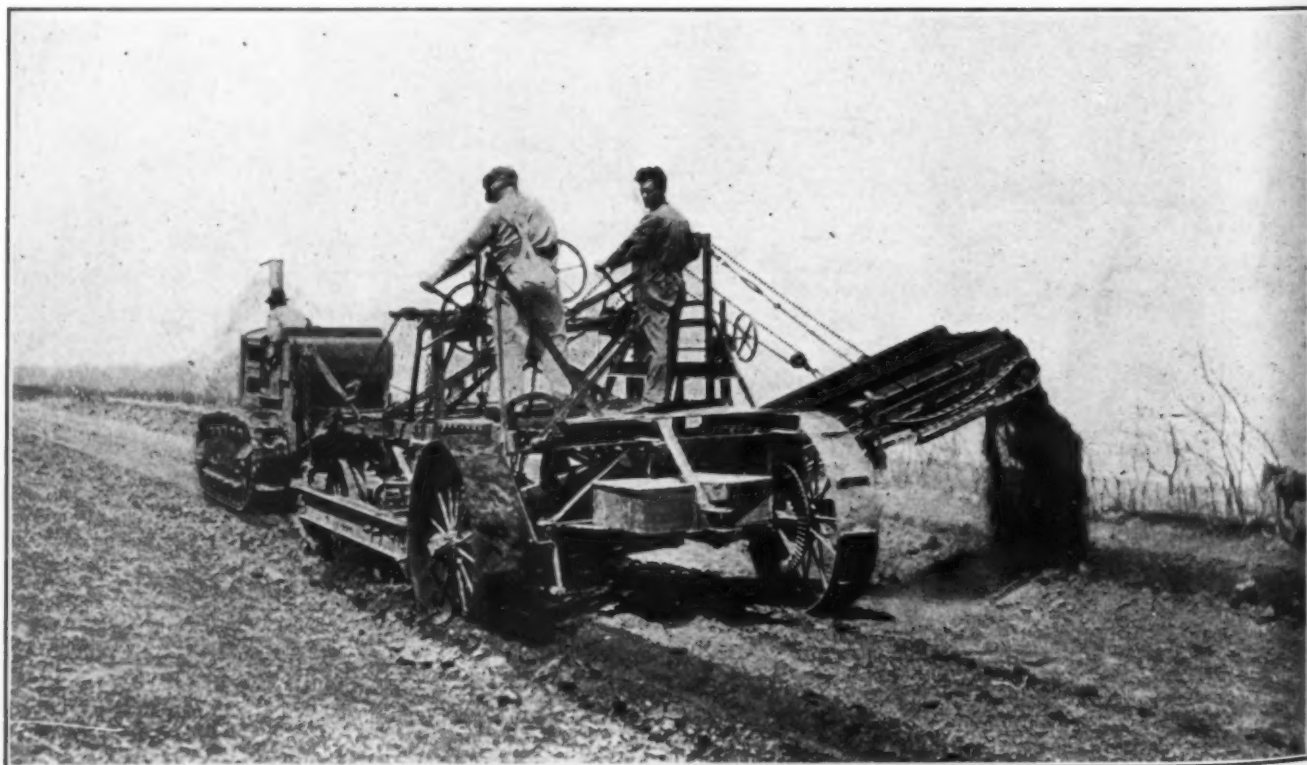
Argentine Highway Builders Use Machines Made in United States



**I**N addition to discussing road building at the Pan-American Highway Congress in Buenos Aires, the Argentine Government is actively engaged in construction work. The two photographs on this page were taken in the Argentine and show a Caterpillar

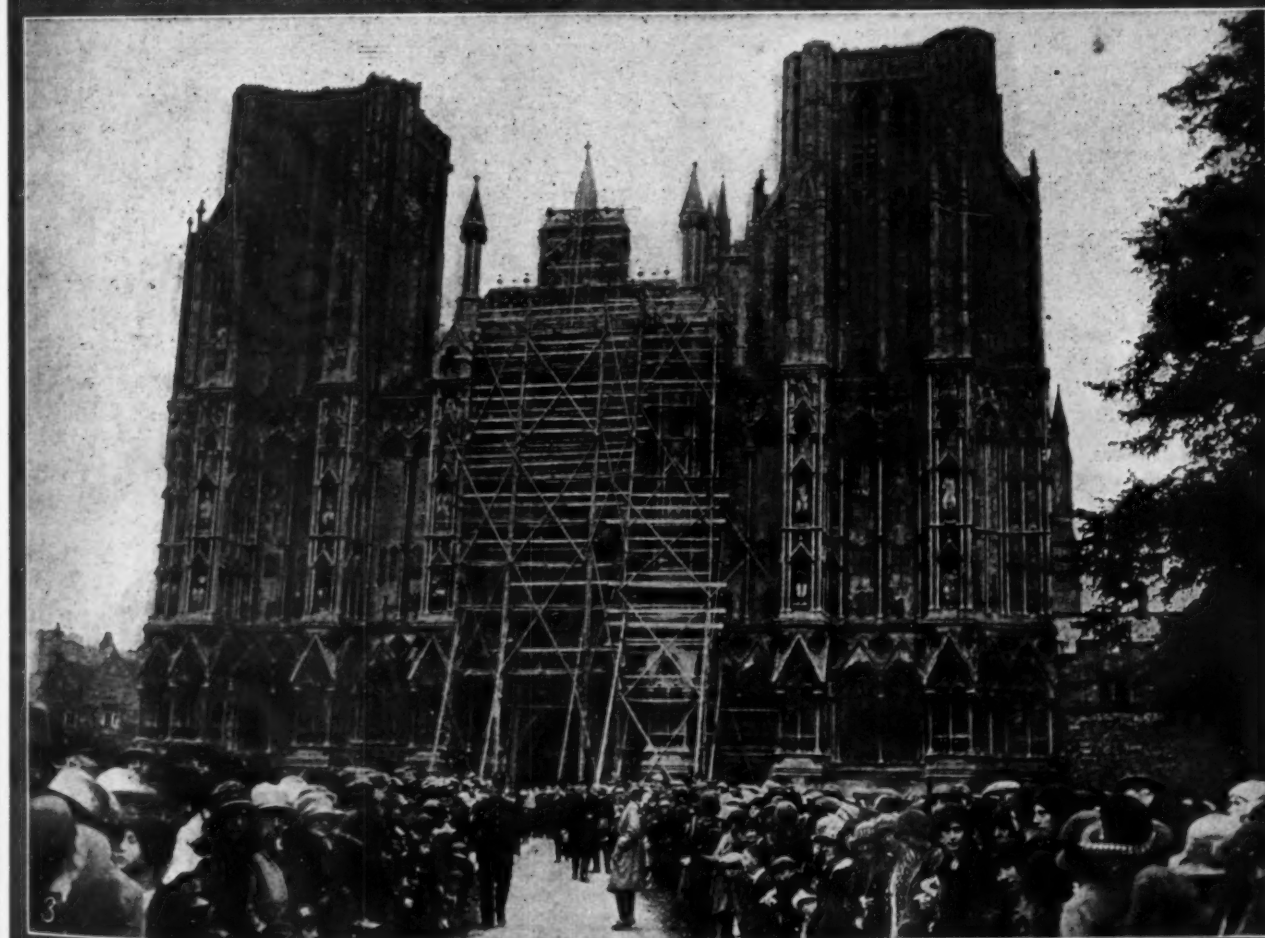
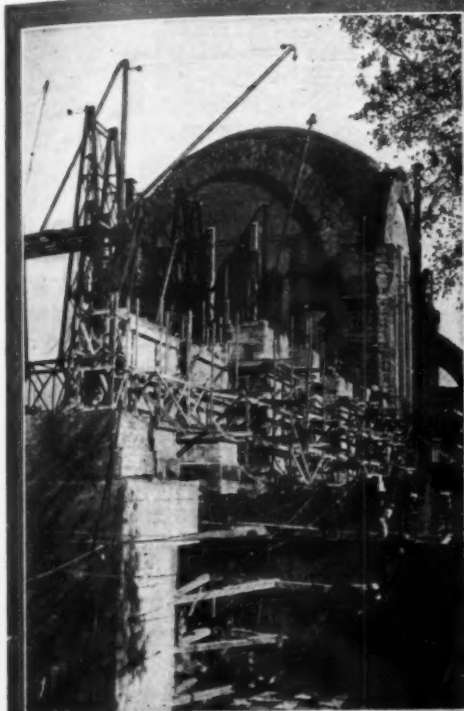
tractor hauling an elevating grader on a road job.

As may be seen from the photographs the flat nature of this particular section of the country lends itself to the operation of big grading units, such as that shown.





## Among the Cathedrals



1. Good progress is being made in the construction of the nave of the Cathedral of St. John the Divine in New York City. © Kadel & Herbert.
2. The great Russian Cathedral in Warsaw, Poland, built by the Czars is being torn down. The Poles are getting rid of the evidences of the years of Russian domination. © P & A
3. Reconstruction work on Wells Cathedral in England came to a halt recently when an important wedding took place. © Keystone.

## PNEUMATIC TOOLS RAZE STURDY STRUCTURE

Cut Way Through Walls of Building Removed to Make Way for New High School in Buffalo

BY R. N. BRYAN

THE photographs accompanying this article are not exactly what they seem. They show neither a war-torn cathedral nor a movie set in the process of collapse. They depict instead, the ravages of the wrecking crew after tearing into a modern stone building with hard-hitting pneumatic paving breakers. The fire seen in the pictures did not result from dynamiting; it was kindled under the few wooden supports remaining after the paving breakers had finished their work.



REMOVING THE DOME

The City of Buffalo recently purchased a piece of property to be used for school land. The lots were owned formerly by the Commandery of Masons, who, in 1910, erected the handsome Horace Noble Memorial shown. This comparatively new building, constructed of paving block with sandstone trim, was doomed when the city took over the property.

Green and Lanctot, Inc., of Buffalo, obtained the wrecking contract. Their principal equipment employed in dropping the walls consisted of an



AFTER THE PAVING BREAKERS HAD CUT THROUGH THE FOUNDATION

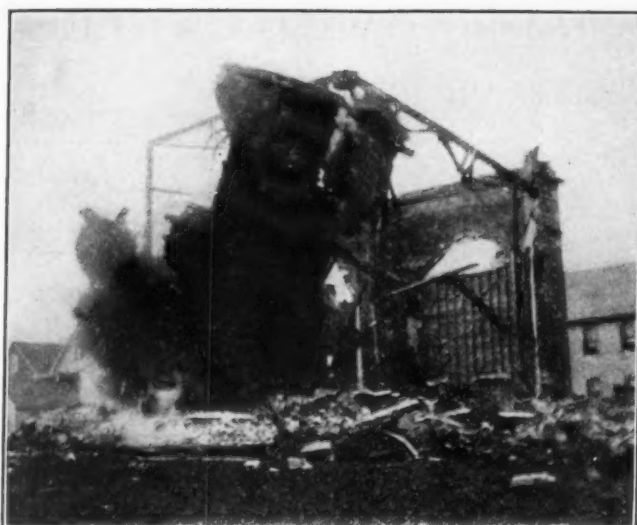


Ingersoll-Rand 5 by 5 Portable Compressor and a number of Ingersoll-Rand paving breakers.

After these tools had made the necessary inroads in the foundation and had left only the wood studding, the contractors built a fire which slowly ate through the timber supports. As these weakened, the walls collapsed.

A short five days saw the memorial completely razed and the material carted away to be sold for new construction work. Speed was not the only feature for the work was carried out at the low cost of \$250—a fact we may attribute in part to the efficient performance of the air compressor and paving breakers.

Pneumatic equipment made possible the employ-



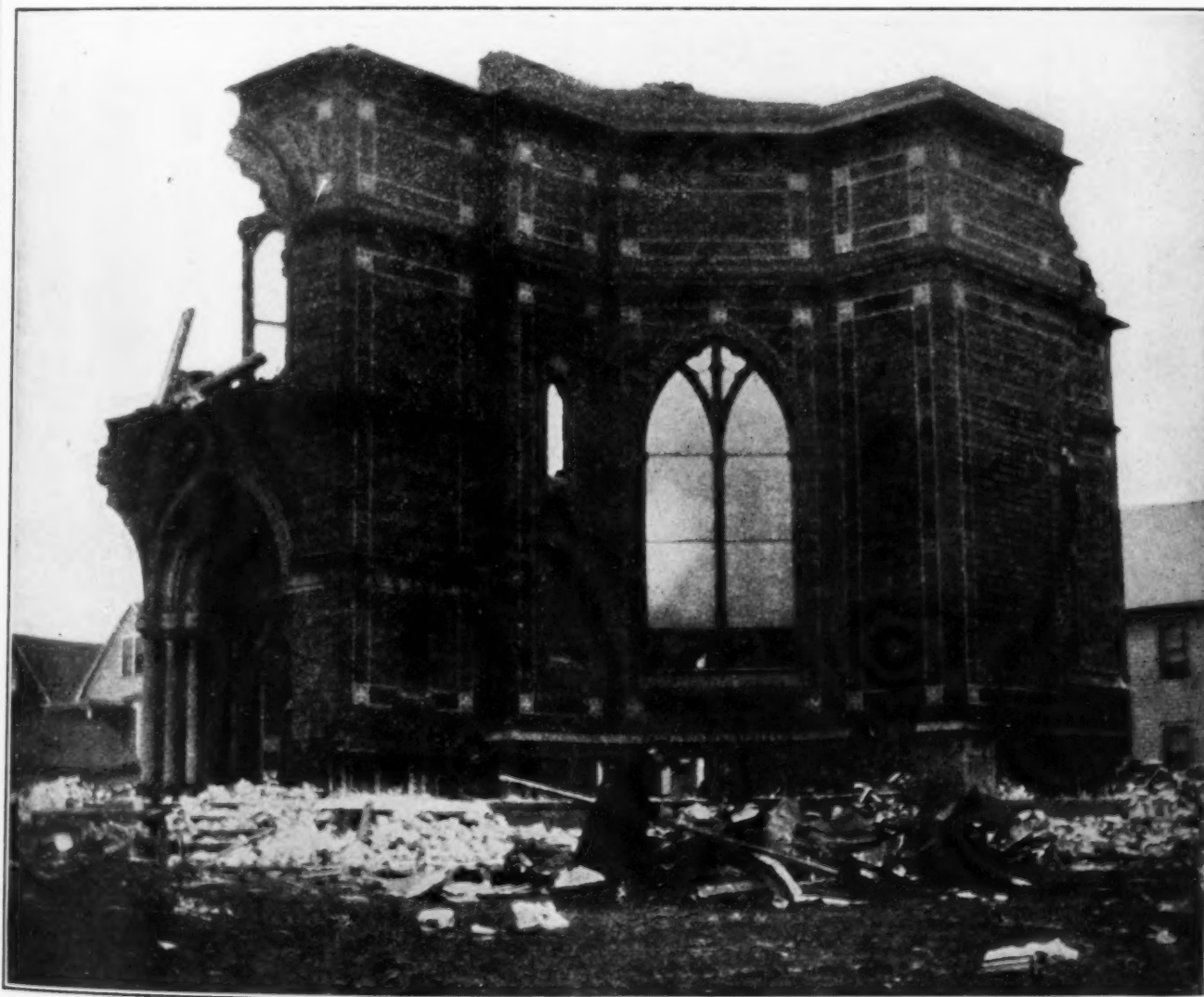
BURNING THE WOOD FRAME

ment of only a few laborers, which, in turn, meant low compensation insurance costs.

The skillful and economical method of handling this job has created favorable comment among numerous contractors engaged in this line of work.

Getting rid of the buildings already on the site selected for a new structure always presents a problem. On this particular job the building which had to be destroyed was so well built that it looked as though the expense of tearing it down

would prove quite large. The fact that the work was done at so low a cost as \$250 is a real tribute to the efficiency of the method employed and to the tools which did the actual work. They have shown one more way in which they can be put to satisfactory use.

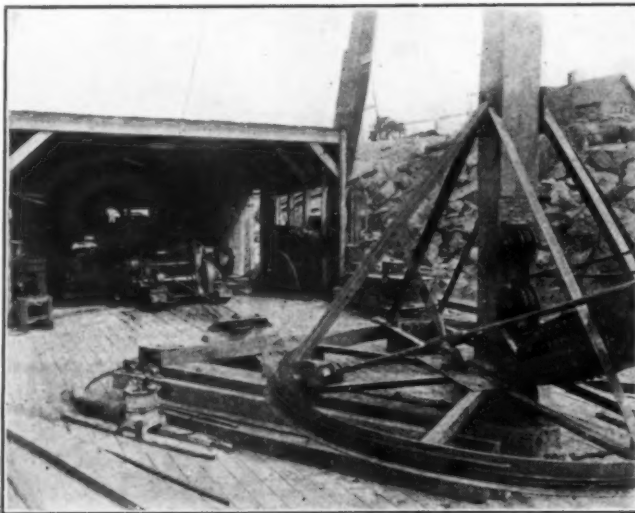


THE JOB AT THE HALF WAY MARK

## RECLAIMING WILD CAT CREEK

Kokomo Builds Dredge to Clean Out Bed of Much Abused Stream

**W**ILD CAT CREEK in the city of Kokomo, Ind., has been considerably subdued in the last few years as it has been used by the citizens of that municipality as a sort of dumping ground for useless articles of various descriptions. It became so much of a nuisance that the city decided to clean it out once and for all. To accomplish this job, a barge was built equipped with a Clyde derrick which was operated by a Clyde hoist.



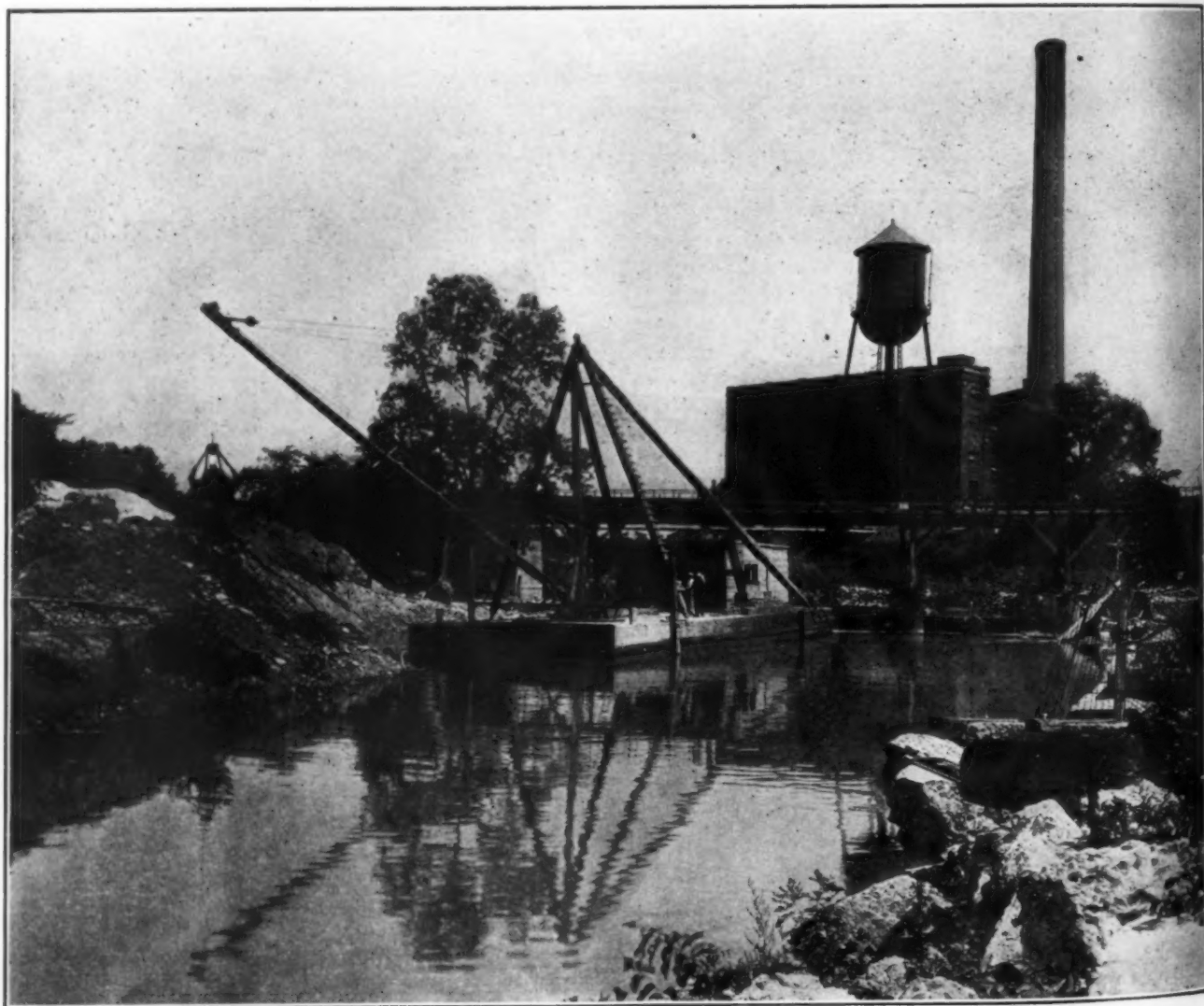
THE HOIST WHICH DOES THE WORK

was possible to use a dragline and the other times a clamshell bucket was employed. The creek was so shallow in places that a temporary dam had to be built in order to raise the water level high enough to float the barge.

The barge itself was christened the Jimmie Willis. This name was a sort of joint enterprise, the Jimmie being derived from the first name of Mayor Burrows and Willis being the last name of the contractor

The photographs give a good idea of the sort of work this barge encountered. Part of the time it

who built the barge, whose work was to provide a much needed improvement for Kokomo.

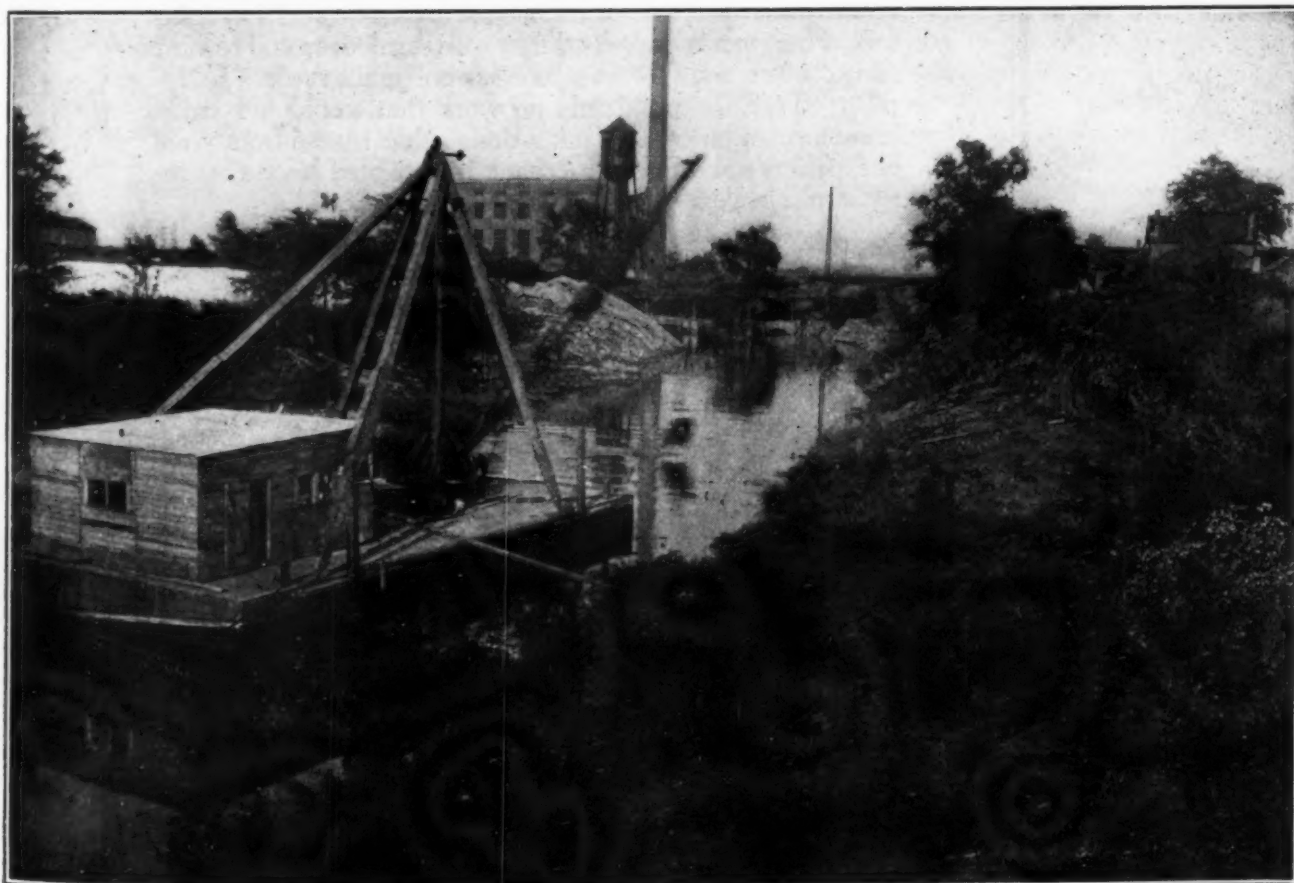


DREDGING WITH CLAMSHELL BUCKET





THE DAM BUILT TO RAISE THE WATER LEVEL MAY BE SEEN IN THIS PICTURE



THIS PHOTOGRAPH SHOWS THE NATURE OF THE BANKS OF WILD CAT CREEK



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